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APPLICATION OF PROJECT MANAGEMENT PROCESS IN PUBLIC PROJECTS

Emils Pulmanis, State Regional Development Agency, Latvia[1];
Silvija Bruna, University of Latvia, Latvia

Abstract. The modern-day project management is unimaginable without the application of project management process. On the changing economic scene, one of the tools for growth of the new European Union member states is the available funding for improvement and construction projects of the public infrastructure. In the 2007-2013 planning period Latvia has 4.5 billion EUR available for the implementation of various projects.

The purpose of this article is to analyse the polycentric development infrastructure project initialization, planning and introduction processes through analysis of their compliance with the project management process.

The subject of the study refers to municipality infrastructure and construction projects.

The methodological basis for the article is made up of the laws, regulations, and guidelines of the Republic of Latvia as well as works of foreign authors, and research carried out by the authors. Comparative analysis was used for assessment of the results of expert surveys (Delphi method) and their coordination with the risk analysis provided by project submitters. Having analysed the municipality public infrastructure and construction projects, it was concluded that their adopted project planning is incomplete, and its significance is not always understood on the municipality level. To justify the necessity for the project, it is best to start by describing the issue in question or the problem topicality. Municipalities are forced in their work to solve problem situations involving various target groups.

Having analysed municipality project submissions, the authors concluded that the particular problem solution approach, i.e. the alternative analysis, is of particular importance in program and project planning.

To analyse 73 of the approved municipality infrastructure projects in the polycentric development priority, the authors carried out assessment of a cost-benefit (CBA) analysis application.

Key words: *project management process, construction projects*

JEL code: O22, L74

Introduction

The Baltic countries are currently in the stage of recession, and every European Union member state has to make reasonable decisions with respect to its investment policies. Undoubtedly, various financial instruments can serve as a means of economic recovery following the economic crisis. The biggest input

[1] Corresponding author – e-mail address: emils.pulmanis@gmail.com, telephone +371 26896748

in economy is of course provided by implementations of various kinds of infrastructure projects, as they create both added value for state and municipality owned assets and jobs, and also improve the services to project target groups. Unfortunately, the available resources bring about doubts about what is efficient administration of the funds and how project management principles should be applied in implementation of municipal infrastructure projects.

The financing available to the National and Regional Scale Development Center Growth Promotion for Balanced State Development activity of the event Support for Sustainable Urban Environment and Urban Region Development of the supplemental priority Polycentric Development of the program Infrastructure and Services in the 2007–2013 planning period makes up LVL 209,216,720, including ERAF co-financing of LVL 177,834,211 and national public co-financing of LVL 31,382,509 (Draft National Strategic Reference Framework 2007-2013, 2007), and as a consequence the reception and efficient administration of financial resources have become topical issues.

The **aim** of this article is to analyse the polycentric development infrastructure project initialization, planning and introduction processes through analysis of their compliance with the project management process.

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The listing of literature provides references to works of both foreign authors, and sources of publicly available information.

Project management process

As the 1990s approached, project management began to mature in virtually all types of organizations, including those firms that were project-driven, those that were non–project-driven, and hybrids. Knowledge concerning the benefits project management offered now permeated all levels of management. Project management came to be recognized as a process that would increase shareholder value (Kerzner, 2001).

A construction project begins with an idea, a perceived need, a desire to improve or add to productive capacity or the wish for more efficient provision of some public service (Bennett, 2003).

A process is a defined sequence of tasks, that requires the cooperation of several roles from one or several organizations. Elements of processes are tasks, decisions, interrelationships between the tasks and decisions, and organizational responsibilities. A process is not an organization itself, but a sequence of tasks which runs horizontally through one or several organizations (Gareis, 2008).

The project management process is defined on the basis of a process description and enables the determination of measurable outputs. This improves the quality of project management (Gareis, 2008).

Research methodology and results

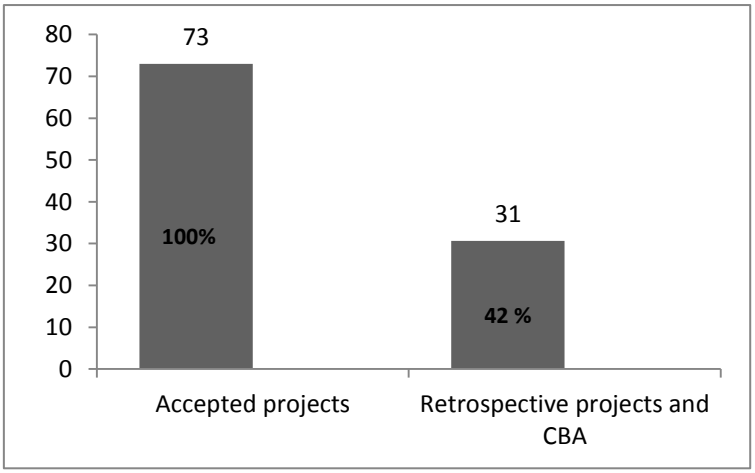
The authors based their research on an assessment of the public infrastructure project planning process implemented by municipalities and a more detailed analysis by the following project initialization stages in polycentric development projects:

- problem definition;
- alternative analysis;
- costs – benefit analysis;
- risk analysis.

Problem solving is a mental process which is the concluding part of the larger problem process that includes problem finding and problem shaping where problem is defined as a state of desire for the reaching of a definite goal from a present condition that either is not directly moving toward the goal, is far from it or needs more complex logic for finding a missing description of conditions or steps toward the goal (Altshuller, 1973).

Justification of a problem situation should make sure it describes a controversy, not just lists a number of various facts. A typical mistake is to indicate in the project submission the desired situation, not describing the existing. In such a case the problem justifying the need for the project is not demonstrated. Therefore, the problem results from the problem situation. Whereas a problem situation is one that encourages formulating and solving the problem. If a problem situation is not analysed in sufficient detail, the solution, too, can be incomplete. To justify the necessity for the project, it is best to start by describing the issue in question or the problem topicality. Municipalities are forced in their work to solve problem situations involving various target groups.

Having analysed municipality project submissions, the authors concluded that the particular problem solution approach, i.e. the alternative analysis, is of particular importance in program and project planning.



Source: Author's construction based on empirical research

Fig. 1. **A formal application of CBA**

To analyse 73 of the approved municipality infrastructure projects in the polycentric development priority, the authors carried out assessment of a cost-benefit (CBA) analysis application. A municipality project management specialist survey revealed that the need for the municipalities and 56% of the 136 respondents do not understand a cost-benefit analysis believed the CBA to be an unnecessary and cumbersome process. At the same time, the authors analysed the public procurement procedures for projects and found that in limited project bid selection 42% of the cases feature a formal cost-benefit analysis that is only done after announcing the construction procurement and even after beginning the construction (Figure 1). Considering that in the case of limited selection costs are eligible after the approval of the idea by the Coordination Board, project proposal, and a CBA must be presented for the evaluation of projects when the project implementation begins, there is a well-grounded suspicion that the project ideas are often politicized. Such a situation preconditions the perception of CBA as a formal requirement rather than a means of

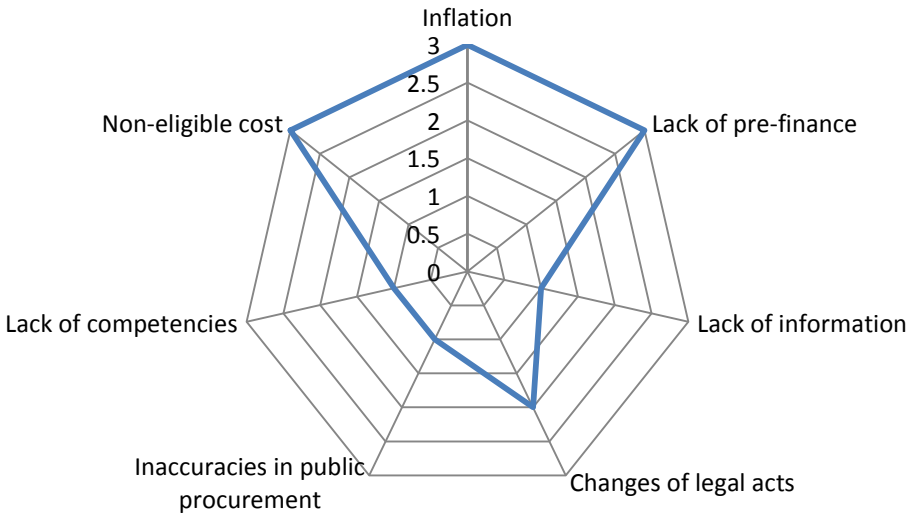
assessing projects' efficiency and usefulness. Retrospective projects (ones assessed and approved only when the planned project activity has already begun) cause the municipalities to skip a detailed project planning and rely only on the decision-making power's assumptions as to the necessity of the projects, and respectively making not more than a formal evaluation of all benefits and costs when the construction or reconstruction work has practically already begun.

A selective analysis of the technical and economic justification of the projects found several negative aspects and non-conformance to the project management theory.

Project analysis considers two factors, i.e. the situation with the project and without the project, making the corresponding calculations for the alternatives. A characteristic of such selection is that the project ideas in limited selection bids are approved by the Coordination Board meeting, where each region or municipality is assigned its specific financing quota. The authors did not find in the selected projects any alternative analysis methods where the municipality would perform a preliminary detailed assessment of not only the situations with or without the project, but also with a greater extent of detail, for instance analysing specific approaches and solutions. When developing project bids, municipalities should perform such solution analysis for infrastructure reconstruction projects, analysing the possibility to implement the project using various solutions – construction solutions, financing models, and other alternatives (Campbell, 2003).

Hence, in absence of such a detailed analysis it is impossible to objectively assess the existing technical and economic justification, since only two alternatives are considered, i.e. with or without the project.

Analysis of the solutions defined in the projects lead to conclude that the cheapest alternative is not always justified, but it can explained by the fact that the cheapest solution is not always the best. In such case definition of the potential benefits serves as the justification. It must be ensured that the net benefit is greater than the planned expenses (net benefit = benefit-costs).



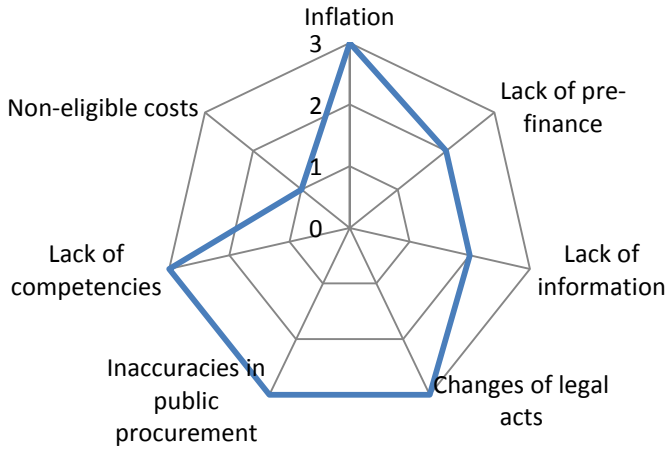
Source: Author's construction based on empirical research

Fig. 2. **Expert main risk evaluation summary**

The financial instrument administration institution given methodology requires the project applicant to define and evaluate all possible project risks (including cost increases risk etc.), to which the project applicant may face during the implementation of the project and which could adversely affect, impair or impede the project implementation. For example: the potential cost increases, construction of service availability and quality of human resource availability and professionalism (the project management team's risk), service time link with the project deadlines, juridical risks, etc. Implementers should provide information on planned measures for identified risk, defined prevention or mitigation activities, as well as state and will be overseen by a risk-prevention measures and take new potential risk identification. Although the methodology and regulations of Cabinet of Ministers clearly define the need for project risk analysis, the practice shows that the public sector project risk analysis is comprehensive and not always defined as the risk analysis in the content of the standard risk management theory. Project submissions presented in the risk analysis and prerequisites are given as generalized forms, and often not defined as a risk.

To demonstrate the experts and project applicants' different approach for risk analysis the author used comparative analysis method to examine project applicants (Figure 3) and field experts risk assessments (Figure 2). Comparative analysis shows that experts have defined financial risks (non-eligible costs, lack of pre-financing, inflation impact etc.) as important.

Meanwhile, analysis shows that project applicants have defined risks regarding human resources and project management as well as project implementation risks at the highest rate. It means that applicants consider themselves incompetent in the project management field. It could also be explained as fear of the administrative institution decisions with regard to the project acceptance process. In the international project management standards (PMBOK, IPMA ICB baseline, PRINCE2 etc.) the human resource and management risks have been defined as important, but not as important as the financial and implementation risks. Meanwhile the leading authority on project management K.Herzner says that risk analysis is reasonably well defined for schedule and cost risks and does not emphasize the risks of human resources (Kerzner, 2001).



Source: Author's construction based on empirical research

Fig. 3. **Project applicants risk evaluation summary**

There are two essential conditions that must be taken into account when carrying out risk analysis, i.e., whether the project is implemented in pure project organization form or mixed form of organization in the risk analysis of the widely prevalent definition of risk management and a variety of prevention measures. Clearly, the human factor is key to the success of the project, but the risk analysis shows that local governments often justify them with the risks that employees amateurism, improper implementation of actions, ignorance, inaptitude, incorrect application of law rules, etc. It should be remembered that these defined conditions cannot be considered a risk. If a person applied improperly, or unprofessional, then the project manager simply builds a team which is professional and knowledgeable in project management. The definition of risk by itself has already determined that it is an unexpected event or activity that might affect the achievement of project results, so the incorrect application of risk analysis is unacceptable because it just proves the incompetence of the project developer, if you can afford to believe that the same employee is incompetent (Pulmanis, 2011).

From the 234,336,206 EUR handed out in contracts to the polycentric development priority, the found non-conformances amounted to 2,304,836 EUR, i.e. 0.98 % of the approved financing. The proportion of non-conformances having financial consequences exceeding 2% in terms of material impact is assumed as a point of reference in evaluation, seeing that it is the level established for the EU funds in accordance with the European Commission regulation No. 1828/2006, annex No. 4. A non-conformance (Commission regulation, 2006) is any violation of the community legislation resulting from actions or lack of action by the subject of operational activity and causing or threatening to cause damage to the general budget of the EU by demanding the general budget to cover an unjustified part of costs. Non-conformant expenses arise where they cannot be withheld from the current payment.

Non-conformance without financial consequences are violations where no non-conformant expenses are found and the expenses need not be recovered, since the recipients of the financing have not been financed, for instance when a contract is cancelled before any payments are made.

Non-conformant expenses are ones that cannot be withheld from the current payment. In other words, these expenses are paid to the recipient of the financing and respectively the non-conformant expenses are taken from the next payment, or recovered otherwise.

Losses to the state budget by non-conformant expenses and non-conformances found in the projects of direct or indirect state administration institutions, derived public entities, or other state institutions, are recovered by withholding them from the current/next payment, by writing them off, recovering and reporting the Cabinet of Ministers. Additional losses to the state budget are caused by non-conformant expenses found in the projects implemented by businesses and non-governmental organizations, and these cannot be recovered.

All in all, it can be concluded that the most significant reasons for non-conformance continue to be violations in the public procurement procedures, lack of operational activity by the recipients of the financing, and failure to implement the activities or comply with project conditions, which includes the indicators planned in a project being practically out of reach or impossible to measure.

Municipality project management experts have indicated the poor project implementation and control system in municipalities as the flaw, rather than the project planning process, emphasising in particular the issues in construction project implementation because:

- municipalities are incapable of providing for a construction board in its own territory –the institution necessary for the construction process – which leads to a situation where several regions share a single construction inspector, who cannot ensure a sufficient quality construction control in his/her municipality,
- lack independence for the inspector, which is especially pronounced in construction of the projects co-financed by the municipality; in some cases the construction inspectors do not have any legal support,

- insufficiently optimal construction project implementation control system and relatively low level of competence among the construction inspectors,
- the level of project specialists' competence and professional knowledge in technical processes, especially in implementation of large scale infrastructure projects.

Conclusions

Having analyzed the municipality public infrastructure and construction projects implemented in Latvia, it was concluded that their adopted project planning is incomplete, and its significance is not always understood on the municipality level. When studying the polycentric development priority project planning, an important deficiency is the fact that projects are approved in limited selection procedures and the project approval is done in retrospect, when the project ideas have been approved formally, and the project implementation begins before detailed project submissions are developed, which includes proper problem definition, cost-benefit analysis and a justified risk analysis.

The project budget will only function effectively on the three levels if decision making and project management systems and processes are performance-oriented. Weaknesses that undermine public sector performance include:

- Poor project planning;
- No links between policy making, planning and budgeting (political influence);
- Poor expenditure control at municipality level;
- Lack of professional and skilled project managers;
- Poor construction quality.

Authors conclude that research object was public sector implemented projects financed by the European Union funds. The study shows the existing problems of public sector project management problems, which could affect the efficiency of public expenditures in Latvia. The further research and study should be done to evaluate problems why the public sector project management practice is poor and lack of project management tools and instruments.

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